

## **PRELIMINARY CONCLUSIONS ON AVAILABILITY STUDIES OF IMPACT OF SINGLE TUNNEL FOR MAIN LINAC\*\***

- 1. The RF power system as described in the RDR is unsuitable for a single linac tunnel design as there is a significant decrease in available operating time without further improvements in MTBF's, an increase in energy overhead and/or changes in maintenance schedules.**
- 2. There are two alternate RF power system designs proposed for single tunnel linac operation. (The Klystron Cluster and the Distributed RF System). Either approach would give adequate availability with the present assumptions. The Distributed RF System requires about a percent more energy overhead than the Klystron Cluster Scheme to give the same availability for all other assumptions the same. This small effect may well be compensated by other non availability related issues.**
- 3. With the component failure rates and operating models assumed today, the unscheduled lost time integrating luminosity with a single linac tunnel is only 1% more than the two tunnel RDR design given reasonable energy overheads.**
- 4. The assumptions made to obtain the desired availabilities for all designs were quite aggressive and considerable attention will have to be paid to availability issues during design, construction and operation of the ILC to achieve the simulated availabilities.**

**\*\* In all regions other than the main linacs it is assumed that all non-beamline equipment is accessible with beam on but all other assumptions are the same.**